Department of the Army
Headquarters, United States Army
Training and Doctrine Command
Fort Monroe, Virginia 23651-5000

9 October 1992

Force Development

ORGANIZATIONAL DESIGN, UNIT REFERENCE SHEETS (URS), AND AUTOMATED
UNIT REFERENCE SHEETS (AURS)

Summary. This regulation has been revised to reflect changes in
URS and AURS development procedures and policies resulting from
the reorganization of the organization documentation functions
within the U.S. Army Training and Doctrine Command (TRADOC).

Applicability. This regulation applies to TRADOC activities that
develop, review, publish, and maintain table(s) of organization
and equipment (TOE), URS, and AURS. It also applies to non-
TRADOC activities, set forth in AR 71-31, that participate in the
design of organizations and the TOE development process under the
guidance of the Commanding General (CG), TRADOC, who is the
overall Army TOE and force design proponent. The TRADOC and non-
TRADOC activities designated as. TOE proponents in TRADOC Reg 71-
15 are also designated as force design proponents. A list of all
TOE proponents is contained in TRADOC Regulation 71-15.

Supplementation. Do not supplement this regulation without prior
approval from Commander, TRADOC, ATTN: ATCD-ET, Fort Monroe, VA
23651-5183.

Suggested improvements. The proponent of this regulation is the
Deputy Chief of Staff for Combat Developments (DCSCD). Send
comments and suggested improvements on DA Form 2028 (Recommended
Changes to Publications and Blank Forms) directly to Commander,
U.S. Army Combined Arms Command (USACAC), ATTN: ATZL-CDD-P, Fort
Leavenworth, KS 66027-5300, with into copy to Commander, TRADOC,
ATTN: ATCD-ET, Fort Monroe, VA 23651-5183.

_____

*This regulation supersedes TRADOC Regulation 71-17, 31 August
1990.

TRADOC Reg 71-17

Chapter 1
Introduction

1-1. Purpose. This regulation establishes policy,
responsibilities, and procedures for developing, reviewing,
revising, and approving organization design and related
documentation to include URS and AURS. It also explains the
relationship of the URS and AURS to each other and to the draft
TOE (DTOE) package. Finally, it establishes responsibilities and
procedures for the use of Systematic Organizational Design (SORD)
methodology in developing organization design URS.

1-2. References. Required and related references are listed in
appendix A.

1-3. Explanation of abbreviations and terms. The glossary
contains abbreviations and explanations of special terms used in
this regulation.

1-4. General.
  a. Development and documentation of organization designs
must capitalize on automation support systems to reduce time and
level of effort. The long-term goal is for the Army to make
maximum use of expert systems/artificial intelligence techniques
in accomplishing organization design so that entire organizations
or components of an organization can be easily replicated using
approved requirements criteria and rules. Hence the
establishment of a rule-based organization design system. Two
systems, one fielded and one currently in development will be
used toward accomplishing this goal.
  b. The first of these systems is the SORD program. The
fielding of SORD allows the standardization of procedures used in
designing organizations. SORD is a microcomputer-based system
for assisting in the initial design of organizations. SORD is
also a process that helps to structure and systemize organization
design. SORD leads the user through a process that helps the
user establish requirements based on missions, tasks, and
functions; and then match personnel and equipment to the
requirements. The system and process helps the user to develop
and record unit requirements as well as the assumptions and
decisions made in designing the unit. The reports produced by
SORD form the basis for the URS. It is anticipated that the
detailed data created during the SORD process will be sufficient
for the majority of studies and analyses that now require the
development of the more detailed AURS.

c. The amount of detail in SORD files decreases the
requirements to develop AURS. These SORD files provide an audit
trail and are invaluable references that can be used by TOE
developers during the follow-on DTOE development process.
Similarly, SORD files can be transferred to other proponents for
use in designing related supporting, supported, or command and
control organizations.

d. Continued development of a second rule-based system that
incorporates expert systems and artificial intelligence
technology and procedures will be pursued and will constitute the
objective organization design system.

Chapter 2
Responsibilities

2-1. CG, TRADOC. CG, TRADOC, is responsible for developing organization design URS and AURS for use by TRADOC, Headquarters, Department of the Army (HQDA), and other designated commands and agencies.

2-2. DCSCD, HQ TRADOC. DCSCD will manage the overall development of URS and AURS. DCSCD will--
   a. Coordinate and promulgate policy and overall TRADOC procedures associated with the development of organizations, force design and documentation, and equipment requirements for the Army.
   b. Consolidate and integrate organizational requirements in the concept based requirements system (CBRS) process.
   c. Make recommendations to CG, TRADOC, on headquarters-level organization issues.
   d. Provide top-down design guidance emanating from Headquarters, Department of the Army (HQDA); and the CG, TRADOC; and staff.
   e. Task major subordinate commands (MSCs) to develop organization design URS.

2-3. CG, USACAC. CG, USACAC, is the TRADOC executive agent for URS and AURS development. CG, USACAC, will--
   a. Manage the URS development program in support of both organization documentation and studies and analyses that require organization design information.
   b. Respond to taskings from CG, TRADOC, and advise CG, TRADOC, of taskings received directly from HQDA or other commands or agencies.
   c. Task associated organization design proponents and the U.S. Army Combined Arms Support Command (USACASCOM) to develop organization design URS.
   d. Provide guidance for the submission, review, approval, and disposition of URS documents.
   e. Coordinate integration of organization design and supporting URS development for corps, divisions, separate brigades, and larger organizations with USACASCOM and proponents.
    f. Review and approve URS prepared by associated force design proponents as well as those prepared by the USACASCOM at the direction of the CG, USACAC, or the CG, TRADOC.
   g. Provide instructions and procedures to produce the URS using SORD program.
   h. Develop and maintain SORD software.

   i. Resolve URS/AURS issues that arise among proponents.
   j. Manage the development of AURS to include the following:
     (1) Policy, procedures, and scheduling.
     (2) Quality control.
     (3) Data base maintenance.
   k. Continue development of a rule-based system for future organization design.
   l. Coordinate AURS approval by CG, TRADOC and HQDA.
   m. Develop AURS for associated force design proponents, as required. Coordinate design concepts with major Army commands (MACOMs) and commanders-in-chief (CINCs).

2-4. CG, USACASCOM. CG, USACASCOM, in coordination with USACAC, directs the preparation of URS by associated TOE proponents within their respective areas of combat service support responsibility. USACASCOM reviews and approves URS developed by associated TOE proponents and resolves URS/AURS issues that arise between them. Additionally, USACASCOM reviews all combat service support (CSS) portions of URS/AURS as part of normal and directed coordination procedures.

2-5. Organization/force design proponents. The TRADOC schools, MSCs, and HQDA-designated MACOMs that have combat developments responsibilities and are proponents for organizations will develop organization designs and URS for organizations within their areas of responsibility. AURS, however, will be developed by the TOE developers at the TRADOC force design proponent's MSC or the non-TRADOC proponent. Non-TRADOC developers will develop their own AURS unless specified by joint memorandum of understanding.

Chapter 3
Criteria for Developing URS and AURS

3-1. URS.
  a. Organizations have their beginnings in operational
concepts as described in TRADOC Regulation 11-15. These concepts
provide the basis for the proposed organization and address a
unit's mission, functions, and required capabilities.
Organizational solutions to deficiencies or needs that feed
through the concept based requirements system may require the
development of a URS. The URS is based on operational concepts.
Normally, the URS is the first organization document that leads
to a new TOE. It contains sufficient detail about the unit's
personnel and equipment to be used to support Army force design
initiatives and related studies and analyses. As a minimum the
URS contains--
       (1) Personnel requirements by job title, grade, and
quantity.
       (2) Major equipment requirements to include
nomenclature and quantity.
       (3) A breakout of organization elements with related
personnel and equipment requirements.
       (4) A summary that includes other relevant information
such as unit title, design description, mission, assignment,
tasks, assumptions, limitations, mobility requirement, and
concept of operations.
  b. The URS is developed using the SORD methodology/program.
SORD assures a high degree of standardization and produces a
timely reference for organization documentation as well as an
audit of the requirements and supporting rationale. Variations
of the URS may be developed by changing one or more of several
variables. Specific procedures for using the SORD program will
be published by USACAC in a SORD users' manual, and distributed
by DCSCD, HQ TRADOC.
  c. The SORD program produces reports that serve as the
basis of the URS. A complete URS package includes the
administrative data, an organization chart, personnel data, and
equipment data. Examples of these SORD-generated reports are at
appendix B.

3-2. AURS.
  a. An AURS is developed only when specifically directed by
HQ TRADOC or MSC commanders. Proponents may request development
of AURS to support unique/approved proponent initiatives. It can
emanate from the URS or be developed on its own. AURS are
developed to support systems basis-of-issue plans (BOIP), to

7

project Total Army Analysis (TAA) force structure requirements, and to support tests and evaluations. The AURS is assigned a nine-digit number using the TOE numbering system. An AURS is essentially a DTOE package prepared in accordance with current TOE development policies contained in TRADOC Regulation 71-15 and procedures set forth in TRADOC Pamphlet 71-6. The principal difference between an AURS and a DTOE package is the AURS contains less supporting documentation. Composition of the AURS normally includes reference to the approved concept, section I (Organization), section II (Personnel and Equipment), vehicle use and loading plan, and communications diagrams. An executive summary accompanies the AURS and addresses the purpose of the AURS; the missions, capabilities, assignment, personnel and equipment highlights; and any unique requirements of the unit.

  b. The top-down guidance directing the development of an AURS includes the following:

     (1) The purpose of the AURS.

     (2) The nine-digit TOE number.

     (3) Information regarding the type of modernization equipment to be included or excluded from section II. For example, "Include all XYZ system peculiar equipment and include modernized vehicles only through HMMWV, do not include SINCGARS or MSE equipment," or "Do not apply CSS self-defense initiatives."

     (4) Requirements for specific supporting documentation. For example, "Include vehicle use and loading plans and radio communication diagrams" or "Include radio communication diagrams only."

     (5) Administrative information including submission schedules and review and approval procedures.

Appendix A
References

Section I
Required Publications

AR 71-13
The Department of the Army Equipment Authorization and Usage
Program

AR 71-31
Management System for Tables of Organization and Equipment

AR 570-2
Manpower Requirements Criteria (MARC)--Tables of Organization and
Equipment

AR 611-101
Personnel Selection and Classification, Commissioned Officer
Classification System

AR 611-112
Personnel Selection and Classification, Manual of Warrant Officer
Military Occupational Specialties

AR 611-201
Enlisted Career Management Fields and Military Occupational
Specialties

TRADOC Reg 11-15
Concept Based Requirements System

TRADOC Reg 71-15
Tables of Organization and Equipment (TOE) Development

TRADOC Pam 71-6
"How To" Procedures Guide for TOE Development

Section II
Related Publications

AR 71-2
Basis-of-Issue Plans (BOIP), Qualitative and Quantitative
Personnel Requirements Information (QQPRI)

AR 220-1

TRADOC Reg 71-17

Unit Status Reporting

SB 700-20
Army Adopted/Other Items Selected for Authorization/List of
Reportable Items

TRADOC Reg 11-16
Development and Management of Operational Concepts

TRADOC Pam 71-17
"How To" Procedures Guide for BOIP Development

Appendix B
Systematic Organizational Design (SORD)-produced URS

                          SORD REPORT
                             FOR
                             HHC

PROPONENT AGENCY: DCD FT LEONARD WOOD MO

REVIEW AGENCY: CACDA FT LEAVENWORTH DS

AUTHOR: GS-12, MICHAEL JOHNSON 555-5555

EDITOR: MR. NOAH WEBSTER

CREATION DATE: CYCLIC REVIEW JUN 90

REVIEW DATE: 23 MAY 90

PROJECT TITLE: URS HHC

UNIT TITLE: HEADQUARTERS AND HEADQUARTERS COMPANY, ENGINEER BATTALION,
INFANTRY DIVISION (NG)

DESIGN DESCRIPTION: TEST OF URS PRODUCT

ISSUE(S) : TBD

NEW SRC: 05086L000

REPLACES SRC: 05XXXXXXX

MISSION: T0 INCREASE THE COMBAT EFFECTIVENESS OF THE INFANTRY DIVISION
BY ACCOMPLISHING MOBILITY, C0UNTERMOBILITY, AND SURVIVABILITY MISSIONS

ASSIGNMENT: BATTALION, SQUADRON

TASKS:

    1. COMMAND, CONTROL, STAFF PLANNING, AND SUPERVISION OF ASSIGNED AND
ATTACHED UNITS.

ASSUMPTIONS: PROVIDE ENGINEER ADVICE TO BOTH DIV AND BDE CDRS

LIMITATIONS:

MOBILITY:

    1. THIS UNIT WILL MOVE 1 TIME/3 DAYS ON AVERAGE

    2. THIS UNIT CAN MOVE 100% OF ITS TOE EQUIPMENT IN ONE MOVE WITH ITS
ORGANIC VEHICLES

    3. THE AVERAGE MOVE WILL BE APPROXIMATELY 25 KMS

                             11

PERSONNEL
FOR
HHC

PERSONNEL	JOB TITLE	QTY
COMMO:		
31G00	BN COMM CHIEF	1
31K00	CMBT SIG RADIO	1
31K00	RADIO OPERATOR	2
31V00	UL COMM MAINT	1
31K00	SWITCHBOARD OP	1
CMDGP:		
21B00	BN CDR	1
21B00	BN XO	1
21B00	S-3	1
21B00	ACE	1
25C00	G-E OFF	1
36AC0	CHAPLAIN	1
21B00	EE OFF	1
21B00	S-1	1
15D00	S-2	1
22B00	S-4	1
12B00	WH VEH OPR	1
12Z00	INTEL SGT	1
12Z00	INTEL SGT	1
21B00	PLANS OFF	1
21B00	RECON OFF	1
12Z00	OPNS SGT	1
54B00	NBC NCO	1
12B00	CONST FOREMAN	1
81G00	DRAFTSMAN	1
12H00	CBT ENG	1
33H00	CBT CONST FOREMAN	1
12B00	WH VEH OPR	1
14H00	PL LDR	1
	TOTAL:	24
S-1:		
75Z00	PERS RECORD SUP	1
75B00	PSNCO	1
75B00	PERS ADMIN SP	3
71D00	LEGAL	1
99Y00	CHAPLAIN ASST	1
71L00	CLERK/TYPIST	1
	TOTAL:	8
S-4:		
76Y00	SUPPLY NCO	1
76Y00	ASST SUPPLY NCO	1
76Y00	SUPPLY SP	2
76Y00	CHAPLAIN ASST	1
77F00	PETRL VEH OP	1
12B00	WH VEH OPR	1
	TOTAL:	7
MAINT:		
63B00	MOTOR SGT	1
63B00	LT WH VEH MECH	3
76C00	PLL CLERK	1
54B00	PWR-GEN REP	1
63F00	RECOVERY VEH OPR	1
58H00	TAMMS CLK	1
23F00	ENG EQUIP REP TECH	1
63D00	MAINT TEC LT	1
63B00	SENIOR MAIN SUP	1
	TOTAL:	11
	UNIT TOTAL:	50

OPTIONAL PERSONNEL DATA
FOR
HHC

BY MOS	JOB TITLE	QTY
12B00	CONST FOREMAN	1
12B00	WH VEH OPR	3
12Z00	INTEL SGT	2
12Z00	OPNS SGT	1
12H00	CBT ENG	2
14H00	PL LDR	1
15D00	S-2	1
21B00	ACE	1
21B00	BN CDR	1
21B00	BN XO	1
21B00	EE OFF	1
21B00	PLANS OFF	1
21B00	RECON OFF	1
21B00	S-1	1
21B00	S-3	1
22B00	S-4	1
23F00	ENG EQUIP REP TECH	1
25C00	C-E OFF	1
31G00	BN COMM CHIEF	1
31K00	CMBT SIG RADIO	1
31K00	RADIO OPERATOR	2
31K00	SWITCHBOARD OP	1
31V00	UL COMM MAINT	1
33H00	CBT CONST FOREMAN	1
54B00	PWR-GEN REP	1
45B00	NBC BCO	1
56A00	CHAPLAIN	1
58H00	TAMMS CLK	1
63B00	LT WH VEH MECH	3
63B00	MOTOR SGT	1
63B00	SENIOR MAIN SUP	1
63D00	MAINT TEG LT	1
63F00	RECOVERY VEH OPR	1
71D00	LEGAL	1
71L00	CLERK/TYPIST	1
75Z00	PERS RECORD SUP	1
75B00	PERS ADMIN SP	3
75B00	PSNCO	1
76C00	PLL CLERK	1
76Y00	SUPPLY NCO	1
76Y00	ASST SUPPLY NCO	1
76Y00	SUPPLY SP	2
76Y00	CHAPLAIN ASST	1
77F00	PETRL VEH OP	1
81G00	DRAFTSMAN	1
99H00	CHAPLAIN ASS	1

EQUIPMENT DATA
FOR
HHC

	EQUIPMENT	QTY
COMMO:	HMMWV	
	LT WT DECON	3
	1.5T TRL	1
	3/4T TRL	1
CMDGP:	1.5T TRL	1
	HMMWV	1
	M0TORCYCLE	1
S-1:	HMMWV	1
	2.5T TRK	1
	TACCS	1
S-4:	HMMWV	3
	1.5T TRL	1
	2.5T TRK	1
	TACCS	1
	FORKLIFT, 5T	1
	1.5T TRL	2
	5T DROPSIDE	2
MAINT:	HMMWV	
	LT WT DECON	2
	HEMIT WRECKER	1
	1.5T TRL	1
	HMMWV	1
	2.5T TRL	1
	2.5T TRK	1
	VOLCANO	1
	MICLIC	1
	40T SEMI-TRAILER	1
	LET	2
	D7 DOZER	2
	5T DROPSIDE	3
	5T WRECKER	1
	SHOP EQUIP REF	1
	WELDING TRL	1
	LUBE TRL	1

OPTIONAL EQUIPMENT DATA
FOR
HHC

EQUIPMENT	QTY
HMMWV	
LT WT DECON	3
1.5T TRL	6
3/4T TRL	1
HMMWV	5
MOTORCYCLE	1
2.5T TRK	3
TACCS	2
FORKLIFT, 5T	1
5T DROPSIDE	5
HMMWV	
LT WT DECON	2
HEMIT WRECKER	1
HMMWV	
2.5T TRL	1
VOLCANO	1
MICLIC	1
40T SEMI-TRAIL	1
LET	2
D7 DOZER	2
5T WRECKER	1
SHOP EQUIP REF	1
WELDING TRL	1
LUBE TRL	1

Glossary
Section I
Abbreviations

AURS	automated unit reference sheet
BOIP	basis-of-issue plan
BTOE	base TOE
CBRS	concept based requirements system
CD	combat developments
CG	commanding general
CINC	commander-in-chief
CSS	combat service support
DCSCD	Deputy Chief of Staff for Combat Developments
DOD	Department of Defense
DTOE	draft TOE
HQ	headquarters
HQDA	Headquarters, Department of the Army
LIN	line item number
MACOM	major Army command
MARC	manpower requirements criteria
MOS	military occupational specialty
MSC	major subordinate command
ODCSOPS	Office of the Deputy Chief of Staff for Operations and Plans, HQDA
SORD	Systematic Organizational Design
TAA	Total Army Analysis
TOE	Table(s) of organization and equipment
TRADOC	U.S. Amy Training and Doctrine Command
URS	unit reference sheet
USACAC	U.S. Army Combined Arms Command
USACASCOM	U.S. Army Combined Arms Support Command

Section II
Terms

Organization design
The basic organization structure required to accomplish specific
battlefield tasks required by doctrine, operational concepts, and
DOD and Army guidance documents. Organization design is also the
process of structuring organizations to increase warfighting
capabilities to support various strategies and requirements while
remaining within the limits of projected resources. The
organization design process seeks to exploit technology to
support operational concepts and to maximize standardization.

URS
An organization document that provides essential information on
the mission, capabilities, and personnel and equipment
requirement estimates. Its principal purpose is to support
organization design efforts; it also may be used to support
development of operational concepts, force structure studies and
analyses, and as a basis for developing the AURS or DTOE.

AURS
An organization document that provides all the details for
sections I (Organization) and II (Personnel and Equipment
Requirements) of a TOE as specified by AR 71-31. Supporting
documentation for AURS is limited to that which is required to
validate stated requirements. It normally includes reference to
the approved concept, section I (Organization), section II
(Personnel and Equipment), vehicle use and loading plan,
communications diagrams, and a brief summary of any unique
requirements. An AURS may evolve from a URS or may be developed
as an original document. It is used when an automated
organization document is required to support long-range force
planning, e.g., TAA process, basis-of-issue plan (BOIP)
development, or other studies or analyses that require automated
data. In general, an AURS is developed using the same procedures
outlined in TRADOC Regulation 71-15 and TRADOC Pamphlet 71-6.
For short-range programming (2-5 years), the DTOE is the
preferred document. The AURS is preferred where doctrinal or
other uncertainties exist that would not justify the expenditure
of greater resources required to develop a full DTOE package.

DTOE
An organization document that provides all essential information
in terms of minimum mission essential wartime requirements to
accomplish stated doctrinal missions. A DTOE package includes
detailed supporting narrative justification and analyses that
explain the stated personnel and equipment requirements and their
intended use. Details regarding the compilation of TOE are
contained in AR 71-31, TRADOC Regulation 71-15, and TRADOC
Pamphlet 71-6. While DTOE may be based on approved URS or AURS,
these documents are not prerequisites to DTOE development. A
DTOE may be used as an initial design document in lieu of an AURS
or URS. When a DTOE is used to accomplish the URS design role,
the embedded design must be approved by the respective MSC CG and
CG, USACAC, prior to submission of the DTOE for TRADOC review and
approval. All organization designs that result from new
operational concepts will be approved by CG, TRADOC, and Office
of the Deputy Chief of Staff for Operations (ODCSOPS), HQDA.

FOR THE COMMANDER:

OFFICIAL: JOHN P. HERRLING
                                                 Major General, GS
                                                 Chief of Staff

DAVID G. FITZ-ENG
Colonel, GS
Deputy Chief of Staff for
  Information Management

DISTRIBUTION:
Hl; H3; TRADOC Instls: Special
Sl; CD

Copies furnished:
RC; Jl; J3; S3